

NOTES ON A COLLECTION OF FISHES FROM CAMERON, LOUISIANA.

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The collection upon which the following list is based was made for the Gulf Biologic Station, chiefly by Mr. Milo H. Spaulding during 1906. The station is located at Cameron, Louisiana, on the outlet of Calcasieu Lake, about 35 miles east of the Texas-Louisiana boundary, and most of the collecting was done in the vicinity, one of the chief localities being Calcasieu Pass, the mouth of the outlet upon which Cameron is situated. A few of the specimens were obtained at the Chandeleur Islands, nearly 40 miles northeast of the mouth of the Mississippi River and about 300 miles east of Calcasieu Pass, but unfortunately the labeling of the collection when it reached the writer's hands was so confused as to render impossible the exact recording of localities.

The most striking feature of the collection is a new species of the *Cerdalida*, the remaining members of which are known only from the Pacific coast of Central America. For this form it has been found necessary to erect a new genus, *Leptocerdale*, and the type-species is here described as *Leptocerdale longipinnis*.

The specimens are in a great part immature, a fact which has rendered identification in many cases very difficult. The extensive collections of Stanford University have been of great assistance in this difficulty, but even with the series at hand some of the young could not be identified.

The writer wishes to acknowledge his indebtedness to Prof. E. C. Starks, under whose direction the present work was done, and to Dr. Charles H. Gilbert and President David Starr Jordan for many helpful suggestions.

Family DASYATIDÆ.

1. PTEROPLATEA MACLURA (Le Sueur).

Represented in the collection by a single young specimen (total length, 190 mm.) which shows instead of the four distinct cross bands

on the tail mentioned in Jordan and Evermann's description^a only two with indications of a third basal band, which, however, fades into a dotted pattern like that of the disk. No caudal spine is present.

Family MYRIDÆ.

2. MYROPHIS PUNCTATUS Lütken.

Six specimens of this species are in the collection.

Family ELOPIDÆ

3. ELOPS SAURUS Linnæus.

This widely distributed species is represented by one young specimen.

Family DOROSOMIDÆ.

4. DOROSOMA CEPEDIANUM (Le Sueur).

The two specimens in the collection would agree with the Gulf subspecies *crite*, if this is recognized, in the depth of the body, measuring 3 and $2\frac{3}{4}$, respectively.

5. DOROSOMA MEXICANUM (Günther).

Represented by five specimens, which show the following variations: The anal rays number from 23 to 26 and the scutes behind the ventrals are more often 10 than 9 as given for the type.

Family CLUPEIDÆ.

6. CLUPANODON PSEUDOHISPANICUS (Poey).

One specimen.

7. BREVOORTIA TYRANNUS PATRONUS Goode.

Represented in the collection by ten adults and a considerable number of young, the latter rather doubtfully referred to this species.

Family ENGRAULIDÆ.

8. ANCHOVIA BROWNII (Gmelin).

Represented by four young specimens.

9. ANCHOVIA MITCHILLI (Cuvier and Valenciennes).

Represented by several specimens, some young, corresponding closely with specimens in the university collection and with Jordan and Evermann's description,^b but differing from the latter in following points: The head in specimens 3 inches long is smaller, 4 to $4\frac{1}{2}$, instead of $3\frac{1}{5}$, the depth usually greater, $3\frac{3}{4}$ to 4, instead of 4, and the eye smaller, $3\frac{1}{2}$ instead of 3.

^a Bull. 47, U. S. Nat. Mus., p. 87.

^b Idem, p. 446.

Family SYNODONTIDÆ.

10. SYNODUS FÆTENS (Linnæus).

There is in the collection one young specimen apparently of this species.

Family PÆCILIDÆ.

11. FUNDULUS SIMILIS (Baird and Girard).

Two specimens were placed in this species. They might possibly fall in the closely allied *F. majalis*, but the vertical scale count of 11 instead of 13 does not favor this.

12. FUNDULUS HETEROCLITUS (Linnæus).

This species is represented by a number of specimens. From the range these might be the subspecies *F. heteroclitus grandis*,^a but they show no sharply marked differences from the typical forms.

13. CYPRINODON VARIEGATUS Lacépède.

This species is represented by six specimens.

14. MOLLIENISIA LATIPINNA Le Sueur.

There are three specimens in the collection belonging to this species.

Family ESOCIDÆ.

15. TYLOSURUS MARINUS (Walbaum).

There is one immature specimen in the collection apparently belonging to this species.

Family SYNGNATHIDÆ.

16. SYNGNATHUS FLORIDÆ (Jordan and Gilbert).

This species is represented by one specimen.

17. SYNGNATHUS SCOVELLI (Evermann and Kendall).

Represented in the collection by five specimens.

18. SYNGNATHUS LOUISIANÆ Günther.

Represented by one adult and several young.

19. SYNGNATHUS CRINIGERUM (Bean and Dresel).

This species is represented by numerous specimens.

20. HIPPOCAMPUS ZOSTERÆ Jordan and Gilbert.

This diminutive sea horse, reported by Jordan and Evermann^b only from the type locality, Pensacola Bay, is represented by five specimens.

^a Jordan and Evermann, Bull. 47, U. S. Nat. Mus., p. 641.

^b Idem, p. 778.

Family ATHERINIDÆ.

21. KIRTLANDIA VAGRANS (Goode and Bean).

There are in the collection seven specimens agreeing well with this species but apparently not sharply separated from the northern subspecies, *laciniata*.

Family MUGILIDÆ.

22. MUGIL CEPHALUS Linnæus.

There are four adults of this species in the collection.

Family POLYNEMIDÆ.

23. POLYDACTYLUS OCTONEMUS (Girard).

Represented in the collection by six specimens.

Family TRICHIURIDÆ.

24. TRICHIURUS LEPTURUS Linnæus.

This species is represented by two specimens.

Family CARANGIDÆ.

25. OLIGOPLITES SAURUS (Bloch and Schneider).

Represented by four immature specimens.

26. CARANX HIPPOS (Linnæus).

This widely distributed species is represented by a single specimen.

27. CARANX LATUS Agassiz.

Represented by four young specimens showing five or six vertical stripes.

28. VOMER SETIPINNIS (Mitchill).

This species is represented by three immature specimens.

29. CHLOROSCOMBRUS CHRYSURUS (Linnæus).

Represented by two young.

30. TRACIINOTUS CAROLINUS (Linnæus).

This species is represented by two immature specimens.

Family POMATOMIDÆ.

31. POMATOMUS SALTATRIX (Linnæus).

Represented by three young specimens.

Family STROMATEIDÆ.

32. RHOMBUS PARU (Linnæus).

This species is represented by six small specimens.

Family LOBOTIDÆ.

33. LOBOTES SURINAMENSIS (Bloch).

Represented by a single immature specimen.

Family SPARIDÆ.

34. LAGODON RHOMBOIDES (Linnæus).

There are two specimens of this species in the collection.

Family SCLÆNIDÆ.

35. BAIRDIELLA CHRYSURA (Lacépède).

This common species is represented by two specimens.

36. STELLIFER LANCEOLATUS (Holbrook).

There are in the collection six specimens agreeing well with Jordan and Evermann's description ^a of this species except that the scale count is 43 to 44 instead of 47 to 50.

37. LEIOSTOMUS XANTHURUS Lacépède.

Represented by fifteen immature specimens.

38. MICROPOGON UNDULATUS (Linnæus).

There are in the collection a considerable number of very immature specimens apparently agreeing with this species in barbels and fin-ray count.

39. MENTICIRRUS SAXATILIS (Bloch and Schneider).

There are three young specimens doubtfully placed here and possibly belonging either to *M. americanus* or *M. littoralis*. They appear, however, to have larger teeth than *littoralis*, and to display the coloration of *saxatilis* (stripes, dark tip to spinous dorsal and to anal) rather than of *americanus*.

Family MONACANTHIDÆ.

40. MONACANTHUS CILIATUS (Mitchill).

Represented by a single young specimen.

41. MONACANTHUS HISPIDUS (Linnæus).

A single young specimen of this species.

^a Bull. 47, U. S. Nat. Mus., p. 1443.

42. ALUTERA PUNCTATA Agassiz.

Represented by two young specimens. These might possibly fall in *A. schoepfi*, but the presence of minute spots, unless an immature character, favor *punctata*.

Family TETRAODONTIDÆ.

43. SPHEROIDES TESTUDINEUS (Linnæus).

This species is represented by two immature specimens.

Family TRIGLIDÆ.

44. PRIONOTUS PUNCTATUS (Bloch).

Represented by one young specimen. This record is a material increase of range, for, although reported from the West Indies (Jamaica) and the Caribbean Sea, it has not before been taken on the coasts of the United States.

45. PRIONOTUS TRIBULUS (Cuvier).

This species is represented by two immature specimens.

Family GOBIIDÆ.

46. CTENO GOBIUS BOLEOSOMA (Jordan and Gilbert).

There are in the collection several young specimens probably of this species, at least closely agreeing with young in the Stanford University collection. Some of the specimens here included may belong to *C. schufeldti* or *fasciatus*, but in the absence of more material for comparison this can not be satisfactorily determined.

47. GOBIOSOMA MOLESTUM Girard.

Represented by fifteen specimens, some very young.

48. GOBIOSOMA BOSCI (Lacépède).

This species is represented by one specimen.

49. GOBIOIDES BROUSSONNETII Lacépède.

Represented by one specimen.

Family URANOSCOPIDÆ.

50. ASTROSCOPUS Y-GRAECUM (Cuvier and Valenciennes).

This species is represented by one young specimen.

51. ASTROSCOPUS GUTTATUS Abbott.

A single young specimen. This is a considerable increase of range, as the southernmost record at hand is Norfolk, Virginia.^a

^a Bean, Proc. U. S. Nat. Mus., 1879, p. 60.

Family BATRACHOIDIDÆ.

52. OPSANUS TAU (Linnæus).

Represented by numerous specimens.

Family GOBIESOCIDÆ.

53. GOBIESOX VIRGATULUS Jordan and Gilbert.

This species is represented by two specimens.

Family BLENNIIDÆ.

54. HYPLEUROCHILUS GEMINATUS (Wood).

This species is represented by two specimens, a male (*multifilis*) with a supraorbital cirrus equal in length to twice the diameter of the eye, and the anal II, 17 instead of II, 18,^a and a female (*geminatus*) with a supraorbital cirrus shorter than the eye, and 16 rays in the anal, which is apparently without spines.

55. HYPSOBLENNIUS IONTHAS (Jordan and Gilbert).

There are three specimens of this species in the collection, two males and a female. The males have the long supraorbital cirrus and otherwise correspond very closely to Jordan and Evermann's description^b, but have D. XII, 14, A. II, 14 and 16 instead of D. XII, 14 or 15, A. II, 15 or 16. The female does not agree so closely, having no evident cirrus, while the dorsal is XII, 14 and the anal I 15 (possibly II, 14) instead of D. XII, 13 or 14, A. II, 13 or 14.

56. HYPSOBLENNIUS HENTZ (Le Sueur).

There are two specimens of this species in the collection. The male, which corresponds very closely to the description given by Jordan and Evermann^c, having the dorsal XII, 14 and the anal II, 15 instead of D. XII, 15, A. 18, is quite evidently Wood's *Blennius punctatus*,^d as he mentions the bifurcated orbital cirrus. The female agrees with Le Sueur's original description of *Blennius hentz*, where the cirrus is spoken of as short and presumably simple and the fin ray formula given as D. XI, 14, A. 16, which is nearer that of the female at hand (D. XII, 14, A. 17, 15) than that of the male. In other words, the discrepancies between the two descriptions given by Jordan and Evermann are the differences between the male and female, analogous to those found in *Hypsoblennius ionthas*, the description in the text and that given by Wood referring to the male, and that of Le Sueur referring to the female.

^a Jordan and Evermann, Bull. 47, U. S. Nat. Mus., p. 2385.

^b Idem, p. 2388.

^c Idem, p. 2390.

^d Journ. Acad. Nat. Sci. Phila., vol. 4, 1825, p. 279.

57. CHASMODES SABURRÆ Jordan and Gilbert.

Represented by nine specimens. The males show the modification of the two anterior anal spines mentioned by Jordan and Evermann.

58. CHASMODES BOSQUIANUS (Lacépède).

This species is represented by one specimen.

Family CERDALIDÆ.

LEPTOCERDALE, new genus.

Body extremely elongate, with small non-imbricate rudimentary scales; head small; snout short and obtuse; lower jaw obtuse, much projecting; mouth markedly oblique; teeth minute, found only in jaws; eye very small; gill slit moderately narrow, more nearly vertical than horizontal; vertical fins joined to caudal; pectorals moderate; ventrals small, of one minute spine and three rays; vent normal, a trifle anterior to the middle of the body.

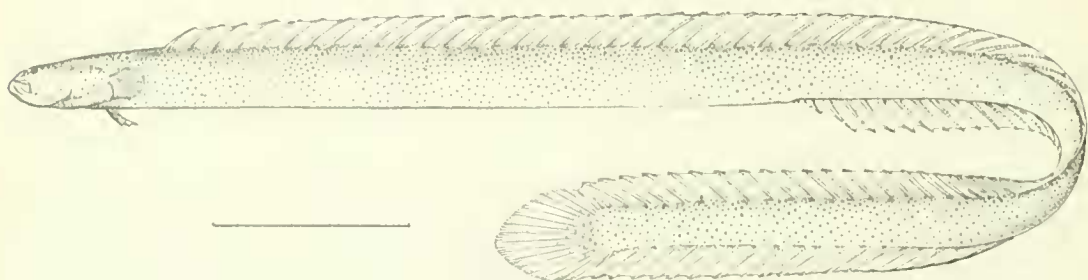


FIG. 1.—LEPTOCERDALE LONGIPINNIS.

This genus is separated from *Cerdale* and *Microdesmus*, the other genera of the Cerdalidæ, chiefly by its much more elongate form and the larger size of the gill slits. In *Cerdale* (*C. ionthas*) the gill slit is shorter than the base of the pectoral and runs very nearly horizontally forward from the lower edge of the base of the pectoral; in *Microdesmus* (*M. retropinnis*) the gill slit is about as long as the base of the pectoral and runs obliquely forward and downward from the middle of the pectoral base, while in the present genus the gill slit is wider than the base of the pectoral and runs from near its upper edge downward and slightly forward. The depth in *Cerdale* is $10\frac{3}{4}$ and in *Microdesmus* $15\frac{2}{3}$ (*M. retropinnis*) and 18 (*M. dipus*) while in the present genus is much more slender than either, the depth varying from 24 to 33.

Type of the genus.—*Leptocerdale longipinnis*.

59. LEPTOCERDALE LONGIPINNIS, new species.

Head 15 in body length (tip of snout to base of caudal), depth 30 in length, D. 68, A. 42, P. 14, V. 1, 3.

Body greatly elongate, compressed, and tapering but slightly. Vertebrae (determined from one of the cotypes) 62 and the hypural

plate, of which 29 are anterior to the vent. Head small, blunt; mouth moderately small, markedly oblique; lower jaw markedly projecting and blunt, gape not reaching vertical from front of orbit; teeth (determined from one of the cotypes) only in jaws, minute, acute, arranged both above and below in two rows which, however, are approximated and tend to pass into one at the extreme posterior end. Nostril double, anterior opening at tip of upper jaw, posterior at anterior edge of orbit. The cheeks are provided with rows of extremely minute pores having a definite arrangement. There are three principal vertical rows dividing the space between the angle of the mouth and the tip of opercle into four approximately equal spaces. The most posterior of these is deflected forward below and joins the



FIG. 2. HEAD OF LEPTOCERDALE LONGIPINNIS.

next anterior near its lower end. In addition there are three much shorter vertical lines running downward from near the eye and just failing to join a rather longer horizontal line lying at the level of the gape. No pores were noticed in other parts of the head. The other available members of the family (*Cerdale ionthas* and *Microdesmus retropinnis*) were examined in this connection and found to exhibit similar pores, but rather less conspicuous and differing in arrangement. Gill slit wider than attachment of pectoral (4 in head), running from near the upper margin of base of pectoral downward and slightly forward, somewhat curved.

The vertical fins are connected with the caudal. The distance from the head to the origin of dorsal is contained about twice in head. The dorsal is composed of 21 slender flexible spines and 17 branched

articulate rays, separable, however, only under a lens. Origin of anal slightly nearer tip of snout than base of caudal. Anal composed entirely of branched articulate rays. Caudal well developed, broadly rounded (in some of the cotypes showing a tendency to become more or less pointed). Pectorals well developed, rounded; ventral small, inserted close together about under insertion of pectoral, of three distinct rays, the inner much the longer, and a minute spine. The spine is difficult to distinguish in some of the specimens at hand, but is plainly present in a number, thus agreeing in this feature with the other members of the family as determined by Gilbert and Starks.^a

Scales small, round, nonimbricate, and widely separated; extending, somewhat reduced in size, over the entire head. The scales are almost entirely missing in the type, the point of attachment being marked by a small depression, but are present in several of the cotypes.

Color in life unknown; no markings present in the type, but in part of the other specimens, due apparently to difference in preservation, there remain exceedingly minute dark fleckings along the dorsal surface, extending in some cases over a considerable portion of the dorsal fin.

Type.—Cat. No. 64157, U.S.N.M., 210 mm. long. This together with the cotypes were taken with a jack-light at night, a fact which may explain why they have not been previously obtained.

The cotypes, 11 in number, show some variations not noted in the foregoing description. The following table will exhibit the chief of these.

Head in total length.	Depth in total length.	Dorsal rays.	Anal rays.
16½	25	67	42
16½	26	70	43
17½	33½	71	45
17	27½	69	43
14	29	68	41
14½	27	71	43
14½	28	70	42
16	28½	70	45
14	24½	66	42
14	26½	68	43
14	27	67	42

Part of the cotypes are deposited in the Stanford University collection, part in the U. S. National Museum.

Family PLEURONECTIDÆ.

60. *ETROPUS CROSSOTUS* Jordan and Gilbert.

There are five specimens apparently belonging to this species, though the interorbital space is distinctly scaly while it is said to be bare in the generic description of *Etropus*.

^a Fishes of Panama, p. 196.

Family SOLEIDÆ.

61. *ACHIRUS FASCIATUS* Lacépède.

Represented by three specimens.

62. *SYMPHURUS PLAGIUSA* (Linnæus).

There are twelve specimens of various sizes which by the number of dorsal fin rays (about 90) appear to belong to this species rather than the closely allied *S. pusillus*, said to have D. 78.

Family ANTENNARIIDÆ.

63. *PTEROPHRYNE GIBBA* (Mitchill).

The single specimen of this genus appears to belong to this species, the bait being bulbous rather than bifurcate. From specimens available for comparison, however, this character shows a considerable variation, and as this is the chief specific distinction, the form may prove not to be separable from *P. histrio* (Linnæus).